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10/687,240	10/16/2003	Susann Marie Keohane	AUS920030041US1	1133
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BRACEWELL & PATTERSON, L.L.P.			EXAMINER	
P.O. BOX 969			SWEARINGEN, JEFFREY R	
AUSTIN, TX 78767-0969				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/687,240

Applicant(s)

KEOHANE ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

1. This case has been reassigned to a new examiner.

Terminal Disclaimer

2. The terminal disclaimer filed on 11/13/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. 7,093,120 has been reviewed and is NOT accepted.
3. An attorney or agent, not of record, is not authorized to sign a terminal disclaimer in the capacity as an attorney or agent acting in a representative capacity as provided by 37 CFR 1.34 (a). See 37 CFR 1.321(b) and/or (c).

Response to Arguments

4. Applicant's arguments with respect to claims 1-4, 6-23 have been considered but are moot in view of the new ground(s) of rejection. The prior double patenting rejection remains outstanding, and is repeated below.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strange et al. (US 6,965,989) in view of Maffezzoni et al. (US 6,532,535).
7. In regard to claim 1, Strange disclosed a system for accessing a "retained copy of the storage operating kernel from a remote location". (*storing a boot image from a primary boot device on at least one disk within said volume group; subsequently booting the system from the boot image stored on the at least one disk, wherein the system's boot operation is completed from within said volume group, rather than from the primary boot device, from which the boot image is copied to the at least one disk*). Strange, column 4, lines 5-19. The disk array in Strange is a plurality of separate volumes each having a file

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system associated therewith. Strange, column 6, lines 35-37. (*within said volume group*). Strange fails to disclose the copying of a boot sector, and establishing an alternate boot priority. However, Maffezzoni, discloses alternate booting to a separate peripheral. Maffezzoni, column 8, lines 16-25. Maffezzoni and Strange are analogous as both teach alternate boot systems in storage networks using partitioned disk drive systems. Therefore it would have been obvious to one of ordinary skill in the art to enhance Strange's storage system with Maffezzoni's remote boot system to allow for a remote booting of a failed RAID system as taught in Strange. Strange, column 3, lines 1-11, lines 35-40, lines 53-63.

8. In regard to claim 2, Maffezzoni further disclosed *copying boot install images from said first boot device to multiple disks within the volume group, whereby each disk of said multiple disks within said volume group may independently server as the boot device for the SAN system and a boot process may be initiated for the SAN system from any one of the multiple disks in the volume group, wherein the SAN is a single, bootable computer system*. Maffezzoni, column 8, lines 38-67.

9. In regard to claim 3, Maffezzoni further disclosed *selecting the at least one physical disk on which to copy the boot install images; selecting particular boot install images to copy to said at least one physical disk, wherein less than all of said boot install images may be selected for copying*. Maffezzoni, column 9, lines 10-31.

10. In regard to claim 4, Maffezzoni further disclosed *building the boot image on a computer system associated with said SAN; and uploading the boot image to said logical volume*. Maffezzoni, column 8, lines 38-67

11. In regard to claim 6, Maffezzoni further disclosed *when one of a system failure and a system recovery from a corrupted boot image on a primary disk occurs, said switching further comprises booting up the SAN system in maintenance mode; generating a prompt for a system administrator to select the boot device from among a displayed list of available boot devices; and automatically encoding the identification and routing information of the selected boot device in a BIOS (basic input/output system) path for accessing the boot device to complete a boot of the SAN system, wherein the boot device selected is the at least one disk within the volume group*. Maffezzoni, column 8, lines 38,-67, column 9, lines 32-50.

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12. In regard to claim 7, Maffezzoni further disclosed *monitoring for an occurrence of a predefined condition on said SAN system; and initiating said switching when one of a plurality of said predefined condition occurs; wherein said predefined conditions include: (1) receiving an error signal from the first boot device when a boot up is desired; (2) being unable to access said first boot device when the boot up is desired; (3) encountering a failure on said SAN computer system that results in a shut down of said system; and (4) system administrative directive to re-boot system from a selected one of said at least one disk.* Maffezzoni, column 10, lines 17-28

13. In regard to claim 8, Maffezzoni further disclosed *selecting a first one of said at least one physical disk as a first boot disk from which said boot process is to be completed; and when a subsequent boot from the selected first boot disk fails and there are additional disks within the logical volume, automatically selecting a second boot disk to complete the boot process, wherein said automatic selecting selects a subsequent boot device based on a pre-established selection order for selecting SAN boot devices when one of the set of predefined conditions occur.* Maffezzoni, column 8, lines 38-67

14. In regard to claim 9, Maffezzoni further disclosed *reading of the boot image at SAN speed, wherein further no boot images are pulled from across the network; and installing images from the boot logical volume at said SAN speed.* Maffezzoni, column 9, lines 10-50

15. In regard to claim 10, Maffezzoni further disclosed *responsive to an occurrence of a corrupted boot logical volume (LV) on a primary boot disk, pointing the system at the install volume group; and initiating a boot installation process to import the install volume group and install the based operating system (BOS) image, which in turn installs the proper devices and optional OPP support desired.* Maffezzoni, column 10, lines 3-43

16. In regard to claim 11, Maffezzoni further disclosed *when an administrator desires to install new optional programming parameters (OPPs), importing the install volume group; mounting the file system hosted on said volume; installing the OPP images; updating a table of contents for the file system; dismounting the file system; and exporting the volume group.* Maffezzoni, column 17, lines 3-30.

17. Claim 12 is substantially the same as claims 1 and 9.

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18. In regard to claim 13, Maffezzoni further disclosed *each storage device has a unique ID, said SAN system further comprising a BIOS; and a mechanism for powering said SAN system on and off, wherein a boot is initiated by said BIOS from a boot image stored on said at least one storage device whenever the SAN system is turned on from an off state.* Maffezzoni, column 8, lines 38-67

- 19. Claim 14 is substantially the same as claim 2.
- 20. Claim 15 is substantially the same as claim 3.
- 21. Claim 16 is substantially the same as claim 6.
- 22. Claim 17 is substantially the same as claim 7.
- 23. Claim 18 is substantially the same as claim 8.
- 24. Claim 19 is substantially the same as claim 10.
- 25. Claim 20 is substantially the same as claim 11.
- 26. Claim 21 is substantially the same as claim 1.
- 27. Claim 22 is substantially the same as claim 6.
- 28. Claim 23 is substantially the same as claim 7.

Claim Rejections - 35 USC § 101

29. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

30. Claims 21-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 21-23 are directed to a computer program product comprising a tangible computer readable medium. Applicant redefined a computer readable medium to encompass non-statutory subject matter, e.g. transmission type media. Specification, page 19, paragraph 0060.

Transmission media are not statutory subject matter. *In re Nuijten*.

31. Claims 12, 14-15, 17, 19-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 12, 14-15, 17, and 19-20 are directed to a SAN system, including means for performing various installation and switching functions. The claims are broadly read to encompass software *per se*. No physical hardware is present in these claims. Applicant redefined a

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switching fabric to encompass wireless communication links, which are not statutory. Applicant included physical media such as physical disks and a BIOS in dependent claims 13, 16, and 18.

Double Patenting

32. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

33. Claims 1, 9, 12, and 21 are rejected on the ground of nonstatutory obviousness- type double patenting as being unpatentable over claims 1, 12, and 20 of U.S. Patent No. 7,093,120. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 3, 9, 12, 15, and 21 of the application are directed towards providing SAN boot devices by storing a boot image of a boot device on a SAN and using the image to boot a SAN system, with the operation performing at SAN speeds. The patent US 7,093,120 claims 1, 12, and 20 are directed toward booting machines from boot files from boot devices stored on SAN volumes. The patent claims include the steps of sending and receiving queries to boot the system, yet these steps are an obvious variant and the omitting of these steps do not create a patentably distinct claim, since one of ordinary skill in the art at the time of invention would see the requirement of sending and receiving queries to undergo the process of booting a machine. In addition, the patent claims are silent in respect to operating at SAN speeds, yet the inclusion of the SAN connected to the machine in the claims implies SAN speeds.

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Conclusion

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571)272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey R. Swearingen
Examiner
Art Unit 2145

JRS

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145